

WHAT IS CLAIMED IS:

1. A wide input voltage range surge suppressor, which comprises:

a series circuit means, including, in series for attachment to an upstream AC power input, and to a downstream load:

- 5 (a) a nonlinear low pass L-C filter having an inductor and a diode bridge, wherein said diode bridge includes at least one capacitor;
- (b) a two section high pass filter connected to said at least one electrolytic capacitor;
- (c) at least one electronic switch connected to said voltage offset diode;
- 10 and,
- (d) at least one capacitor connected to said electronic switch.

2. The wide input voltage range surge suppressor of claim 1 which further includes:

- 15 (e) a voltage offset diode connected to said two section high pass filter.

3. The wide input voltage range surge suppressor of claim 1 wherein  
said at least one capacitor connected to said electronic switch is said  
at least one capacitor of said nonlinear low pass L-C filter diode  
bridge.

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4. The wide input voltage range surge suppressor of claim 1 wherein  
said electronic switch includes at least one series resistor for current  
drive balance assurance.

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5. The wide input voltage range surge suppressor of claim 1 wherein  
said nonlinear low pass L-C filter diode bridge includes at least two  
electrolytic capacitors.

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6. The wide input voltage range surge suppressor of claim 1 wherein  
said electronic switch is a silicon controlled rectifier switch.

7. The wide input voltage range surge suppressor of claim 1 wherein  
said at least one electrolytic capacitor of said nonlinear low pass L-C  
filter diode bridge has a rating within the range of about 50  
microfarads to about 400 microfarads.

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8. The wide input voltage range surge suppressor of claim 1 said low  
pass L-C filter diode bridge has rectifier diodes in the range of about  
3 amps, 400 volts to about 6 amps, 800 volts.

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9. The wide input voltage range surge suppressor of claim 1 wherein  
said two section high pass filter includes at least one capacitor  
having a rating within the range of about 0.05 microfarads to about  
0.5 microfarads, and at least a second capacitor, said second  
capacitor having a rating within the range of about 0.1 microfarads to  
about 1.0 microfarads.

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10. The wide input voltage range surge suppressor of claim 9 wherein  
  
said two section high pass filter includes a resistor having a rating  
  
within the range of about 100 ohms to about 400 ohms, and at least a  
  
second resistor, said second resistor having a rating within the range  
  
of about 20 ohms to about 200 ohms.

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11. The wide input voltage range surge suppressor of claim 9 wherein  
  
said at least one capacitor connected to said electronic switch is  
  
separate from said at least one electrolytic capacitor of said nonlinear  
  
low pass L-C filter diode bridge and is contained within a separate  
  
bridge.

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12. A wide input voltage range surge suppressor, which comprises:  
  
a series circuit means, including, in series for attachment to an  
  
upstream AC power input, and to a downstream load:

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(a) a nonlinear low pass L-C filter having a low Q linear inductor and a diode bridge, wherein said diode bridge includes at least one electrolytic capacitor, said filter adapted for attachment to an AC power input;

5 (b) a two section high pass filter connected to said at least one electrolytic capacitor, said filter having at least two diversely rated capacitors and at least three diversely rated resistors;

(c) a voltage offset diode connected to said two section high pass filter;

(d) at least one electronic switch connected to said voltage offset diode;

10 and,

(e) at least one capacitor connected to said electronic switch.

13. The wide input voltage range surge suppressor of claim 12 wherein

said at least one capacitor connected to said electronic switch is said

15 at least one capacitor of said nonlinear low pass L-C filter diode

bridge.

14. The wide input voltage range surge suppressor of claim 12 wherein  
said electronic switch includes at least one series resistor for current  
drive balance assurance.

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15. The wide input voltage range surge suppressor of claim 12 wherein  
said nonlinear low pass L-C filter diode bridge includes at least two  
electrolytic capacitors.

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16. The wide input voltage range surge suppressor of claim 12 wherein  
said electronic switch is a silicon controlled rectifier switch.

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17. The wide input voltage range surge suppressor of claim 12 wherein  
said at least one electrolytic capacitor of said nonlinear low pass L-C  
filter diode bridge has a rating within the range of about 50  
microfarads to about 400 microfarads.

18. The wide input voltage range surge suppressor of claim 12 said low pass L-C filter diode bridge has rectifier diodes in the range of about 3 amps, 400 volts to about 6 amps, 800 volts.

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19. The wide input voltage range surge suppressor of claim 12 wherein said two section high pass filter includes at least one capacitor having a rating within the range of about 0.05 microfarads to about 0.5 microfarads, and at least a second capacitor, said second capacitor having a rating within the range of about 0.1 microfarads to about 1.0 microfarads.

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20. The wide input voltage range surge suppressor of claim 19 wherein said two section high pass filter includes a resistor having a rating within the range of about 100 ohms to about 400 ohms, and at least a second resistor, said second resistor having a rating within the range

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of about 20 ohms to about 200 ohms, and at least a third resistor, said  
third resistor having a rating within the range of about 10 ohms to  
about 200 ohms.

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